

## Microform Publications: Hardware and Suppliers

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IT IS THE purpose of this article to review the importance of microforms as library media, to discuss the current status of the micropublishing industry as it relates to libraries, and to describe developments in micropublishing and micrographics which have strong implications for future library services. Emphasis will be on a discussion of the problem of selection of microform software and a delineation of the major sources. A cursory review of hardware problems will also be presented.

### DEFINITIONS AND DELIMITATIONS

As used in this article, *microform* is a generic word used to describe a large variety of photographically reduced printed sources which must be mechanically enlarged for satisfactory use. Included are microforms of various sizes and types—16mm and 35mm roll film, microfiche (from the French word *fiche* meaning card), and micro-opaque (sometimes referred to as microprint).

This article will deal primarily with the microforms commonly used in libraries today. Except for some mention under a discussion of trends and developments, it will therefore not deal with the still-limited use of computer output microfilm (COM); nor will it deal with ultrafiche (where approximately 3200 pages at a reduction ratio of 150:1 are placed on one 4" × 6" fiche), since several major projects have not been widely accepted on the marketplace, and "it appears that ultrafiche will have no significant impact upon library microforms," at least in the immediate future.<sup>1</sup>

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Microfiche, a relative newcomer to the microfilm arena, went through a period of uncertainty regarding a suitable reduction ratio. The Committee on Scientific and Technical Information (COSATI) developed a fiche with a 20:1 reduction ratio with about sixty pages on a 4" x 6" card, which was commonly used until about 1971. Since a large retrospective collection is still available today, it must continue to receive some consideration. However, the most commonly produced microfiche today contains approximately ninety-eight pages on 4" x 6" fiche, with a reduction ratio of 24:1; the microimages are arranged in seven rows and fourteen columns. "This American National Standard has been approved by the National Microfilm Association (a national association of individuals interested in the microform field, now called the National Micrographics Association (NMA)) and has been adopted by most micropublishers for many of their publications."<sup>2</sup>

### THE CURRENT STATE OF THE MICROPUBLISHING ART

Whether micropublishing is really publishing by the purist's definition is a moot point. The fact remains that the production of microforms of all types, including retrospective and original publishing, accounts for a phenomenal output of printed sources. If an accurate count could be made it might well reveal that literally millions of titles are currently available, including research reports, journal titles, monographs, dissertations and government publications. Several major micropublishers, such as the Educational Resources Information Center (ERIC), Xerox University Microfilms (XUM), and Readex Microprint Corporation, have in-print lists easily accounting for more than 3 million available titles. There are over 400,000 dissertations listed in XUM's *Comprehensive Dissertation Index*; approximately 35,000 titles are added each year.<sup>3</sup>

Furthermore, despite a current lull and the financial squeeze in the publishing industry as a whole, microform production is at an all-time high and there appears to be no limit to either the number of titles being filmed and remaining in print or the number of new micropublishing firms being established. Reichmann and Tharpe indicated in 1972 that: "the microform industry estimated that production would increase by 10 percent annually. The current prediction is 20 percent yearly."<sup>4</sup>

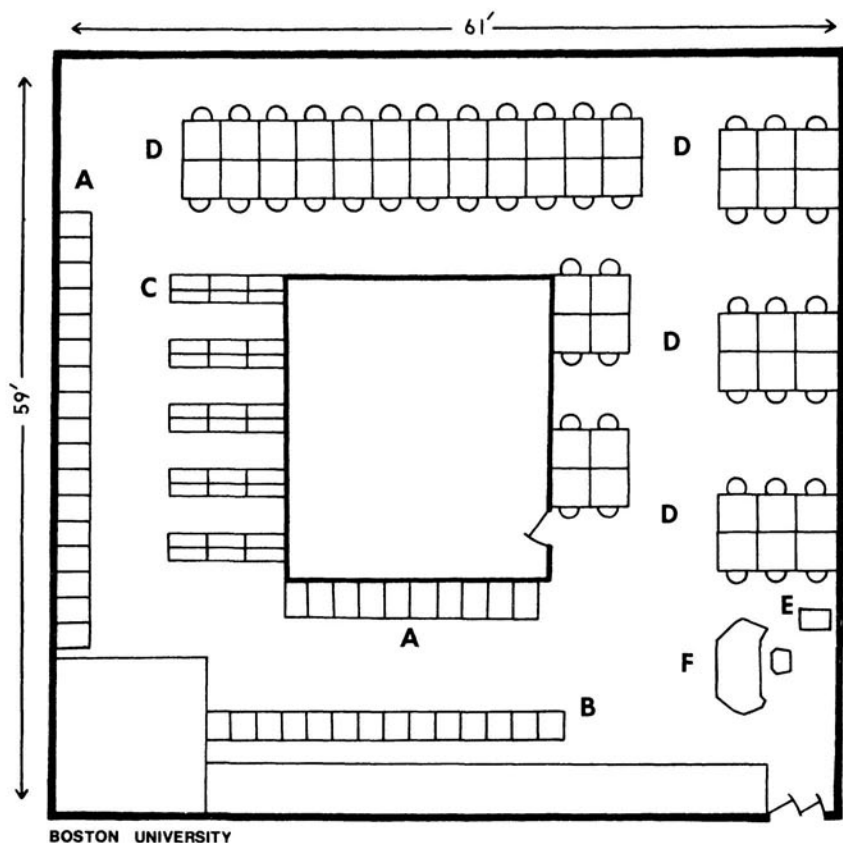
ADVANTAGES OF MICROFORMS AND REFLECTED  
LIBRARY USE

A quick review of the advantages of microforms as legitimate library media would cast some light on the reasons for the tremendous growth in the micropublishing industry. The generally accepted advantages, several of which can serve as criteria in selecting a microform source, include:

1. *Security.* Generally, the microdocument never leaves the library; it is thus not subject to the common problems of theft and mutilation faced with paper print. If stolen, there is a very low replacement cost. Micropublishers do three things to protect security: (1) they register a copy with the Library of Congress, (2) they keep a master of their own, and (3) they usually take another copy and file it in a security vault under controlled conditions.
2. *Integrity and preservation.* If the microdocument is properly filmed, and if the micropublishing house has good quality control, every page of that document remains intact as originally printed. In some cases, the filming of old documents beginning to deteriorate makes a better copy than the original; technology now permits print that has become suppressed or virtually erased to be raised and a sharper copy than the original to be produced.
3. *Reproducibility and convertibility.* Beginning with the founding of modern micropublishing in 1938 with the establishment of XUM, the evolution of printed document reproduction has gone from paper to film to paper; from paper to film to film; and then from film to film. Present capabilities of going directly from film to film or to other formats such as color slides, overhead transparencies, or even videotapes enable microforms to be used literally as hard copy. Nevertheless, even in the smallest libraries, such as many school media centers: "microforms can be converted into paper copy with the use of a simple printing device. The process per page is inexpensive and takes only a few seconds."<sup>3</sup>
4. *Accessibility.* There is general recognition that acquiring information is no longer an insurmountable task; the major problems lie in the area of recovery and use. This is particularly true in the large multistoried or decentralized university libraries. By establishing a separate microform area in its library, Boston University created the capacity to house and make readily accessible the equivalent of 500,000 bound volumes in an area of only 3,599

square feet with space for fifty reader stations. Figure 1 represents the potential use of the 3,599 square feet in the microform area at Boston University; however, not all of the reading equipment has yet been installed.

5. *Density and space.* "Because of miniaturization microforms have the highest storage density of any media."<sup>6</sup> Considering the possibilities of ultrafiche, a whole library "can now literally be stored in a few drawers of a card file."<sup>7</sup> Even considering 35mm roll film



- A — 27 Microfilm Cabinets  
 B — 14 Microfiche Cabinets  
 C — 15 Sections of Double-faced shelving

- D — 50 Microform Reader Stations  
 E — 1 Kodak Reader Printer  
 F — Reference Desk

Fig. 1 Potential Use of Space in the Microform Area.

### *Microform Publications*

with approximately 3,000 pages on a 100-foot reel, or standard microfiche with 98 pages on a 4" × 6" fiche, microform publications "save more than 90% of the shelf space occupied by the same publications in paper form."<sup>8</sup>

6. *Economy.* Because of the costs of composition, printing, paper, and binding, there is only a nominal difference between the cost of paper publications and micropublications where the traditional publishers are printing in both formats. Similarly, the cost factor by those publishers who are solely producing in microform, such as Princeton Microfilm Corporation, is determined by a cost per page; therefore, the price for both specialized and popular publications is about the same. However, a savings is derived by libraries in their purchase of large collections, series, or periodical sets in microform. It should also be noted that the average cost per volume of a journal from XUM collections is \$8.50, while the average reprint in paper costs at least \$25.00 per volume. In addition, the real economy must be interpreted in terms of the space savings described above.
7. *Compatibility.* Newer microform equipment makes it possible to handle a variety of microform formats through a simple lens change or use of an adapter; for example, Kodak's reader/printer, selling for approximately \$4,000, can handle either 16mm or 35mm roll film and either positive or negative microfilm. It will also print paper copy of various sizes. Other manufacturers, such as the 3M Corporation and Xerox University Microfilms, are also producing comparable compatible units.

The growth of the micrographics industry in general (which includes the filming of documents by libraries for internal use and limited distribution) and the micropublishing field in particular (the latest edition of the *Microform Market Place*<sup>9</sup> list about 400 micropublishers) is reflected in an increased interest in microforms by libraries of all types. Guided by the aforementioned advantages, the response by the library world has been one of general acceptance, if not enthusiasm. Libraries of every conceivable type are building microfilm collections, ranging from elementary school and children's libraries with Xedia children's books programs<sup>10</sup> to the large university library with its scholarly and esoteric micropublications offered by the American Philosophical Society Library.<sup>11</sup> A large part of the holdings of American libraries consists of microforms. In a study conducted by the Association of Research Libraries in 1970, it was found that the median library included in the study had 1,268,159 books and 355,

490 units on microform.<sup>12</sup> Thus, for every 100 printed books, the library had 28 microforms, a ratio of less than four to one.<sup>13</sup>

In addition to trying to resolve the never-ending storage problem, libraries of all types are acquiring microforms in increasingly large numbers for the following reasons: (1) to obtain rare books and other materials unavailable or prohibitively expensive in their original form, (2) to replace items printed on badly deteriorating paper, (3) to produce a working copy of rare and fragile material, (4) to replace bulky materials such as newspapers, periodicals, and government documents with a more compact form, and (5) to replace printed sources with microforms in order to conserve shelf space.<sup>14</sup> Among the emerging and future justifications for the use of microforms are the replacement of book or card catalogs (for example, the *National Union Catalog*), and their loan or sale to other libraries in lieu of interlibrary loans of printed volumes.<sup>15</sup>

While it is not the intended purpose of this article to point out the disadvantages or limitations of microforms and their resultant limited use by some libraries, it should be stated that user resistance and the problems of lack of standardization are fast disappearing as legitimate reasons for poor acceptance. "As microforms become 'naturalized' members of the book community, conditions will improve. . . . The passive attitude of librarians will be more difficult to change. Their apathy is due neither to lack of education, nor to unfamiliarity with the new forms but to the inadequacy of the bibliographical apparatus."<sup>16</sup> This situation is changing, as will be indicated by the remaining sections of this article.

#### CRITERIA AND OTHER CONSIDERATIONS FOR SELECTION

In addition to criteria generally applied in the selection of print materials, such as scope, authority, authenticity, and treatment, a set of special criteria for microforms should be considered. Most of these criteria relate to the technical quality of the image reproduction itself in such areas as resolution, density and contrast. We are generally dependent on the reputation of the micropublisher for meeting these criteria.

When libraries have a choice of micropublishers publishing identical titles (as is true of many government documents), various criteria must be considered, including type and capabilities of existing reader/printer equipment, user needs and policies, film size and

### *Microform Publications*

image legibility, archival permanence, and even packaging. All of these points and others, such as film stock and film coatings, are also considered when libraries are themselves involved in reprography (filming for preservation) or in choosing a commercial reprographer. Allen Veaner deals with these problems extensively in *The Evaluation of Micropublications*.<sup>17</sup> His handbook would also prove useful in establishing an overall microform selection policy. In many instances, however, a particular micropublisher may be the sole source for a specific microform title or project. In this case, the voices of librarians must be heeded to ensure consistently high quality and standards.

The points considered by reviewers of microforms, which may be interpreted as additional criteria, also deserve attention. *Microform Review*, a leading reviewing source, includes the following criteria in their regular microform evaluations: microformat, film type, reduction ratio, film polarity, external and internal finding aids, sequence, hard copy availability, replacement policy and payment considerations.

Other than *Microform Review*, there is a virtual void of critical reviewing sources of current microform projects. However, there are several other journals which either announce new microform projects or offer occasional critical reviews (and thus may be considered as current selection aids): *Advanced Technology Libraries*, *Journal of Documentation*, *Library Resources & Technical Services*, *Microdoc*, *Microfilm Newsletter*, *Microfilm Techniques*, *Microinfo*, *Micrographics Today* (formerly *Micro-News Bulletin*), *Publishers' Weekly*, and *Special Libraries*.

When choices are possible, the problem of choosing a format (microfilm, microfiche, or microprint), size of film, or negative or positive reproduction are all dependent on individual library policies and user needs. The advantages and disadvantages of each of three major formats are outlined in an account by Veaner,<sup>18</sup> and are discussed in greater detail by Bernhardt.<sup>19</sup> While no definite conclusions are reached, the many points considered will aid most librarians, particularly those whose libraries are just beginning to develop microform collections.

### SOURCES

Fortunately, there exist today three basic annual directories covering the micropublishing/micrographics industry: *Buyer's Guide to Micrographic Equipment, Products and Services*, *Microfilm Source Book*, and *Microform Market Place*. Together, they offer an extensive and com-

prehensive listing of micropublishers, sources of hardware and products, bibliographies of journals and books in the field, addresses of major organizations, dealers, and reprographic services. They are indispensable tools which help one to keep abreast of developments in the rapidly expanding micropublishing world.

Another important work is Reichmann and Tharpe's volume, *Bibliographic Control of Microforms*,<sup>20</sup> published in 1972; despite the date, it remains a very useful and timely account. It contains a descriptive listing of 482 sources, including catalogs and lists, collections and series, and manuscripts and archival collections. It further includes a detailed description of approximately a dozen major reference books in the micropublishing field.

The reader is also referred to a recent, lengthy article by Albert Diaz which appeared in *Microform Review*. This excellent work "lists and describes articles, books, and services that provide information about publications available in microforms and about microform hardware."<sup>21</sup> No attempt will be made to rehash this very detailed and timely source. Instead, only the major retrospective sources of microforms are listed below. Important evaluation tools and specification guides to equipment are also listed. A selected list of important micropublishers is also included here, which may serve as a source directory for acquiring current catalogs.

#### MICROFORM GUIDES

*Guide to Microforms in Print*—An annual cumulative guide, in alphabetic order, to books, journals and newspapers available in microfilm, microfiche, and microprint from U.S. micropublishers. Dissertations are not included. Each entry contains the price, publisher, and method of microreproduction. (Englewood, Colo., Microcard Editions.)

*Subject Guide to Microforms in Print*—A companion volume to the *Guide* listed above which appears annually and lists the same publications under the Library of Congress subject headings. (Englewood Colo., Microcard Editions.)

*International Microforms in Print: A Guide to Microforms of Non-United States Micropublishers*—A cumulative list, in alphabetic order, of books, journals, newspapers, and selected government documents published in microform. The first issue, 1974, lists more than 8,000 titles. (Weston, Conn., Microform Review, Inc.)

*National Register of Microform Masters*—The *Register* (or NRMM) is a comprehensive listing of microform titles for which a master exists,



### *Microform Publications*

indicating its location. Also indicated are those titles from which copies can be made at a reasonable price. The 1972 edition has 53,000 entries; volumes are not cumulated. (Washington, D.C., Library of Congress.)

*International File of Microfilm Publications and Equipment*—A comprehensive guide to about 200 suppliers of equipment and 120 micropublishers issued on 126 fiche. (Bucks, England, University Microfilms, Ltd.)

*The Micropublishers' Trade List Annual*—An issuance on 83 microfiche of the catalogs of almost 200 micropublishers; includes a printed index. (Weston, Conn., Microform Review, Inc.)

*Newspapers in Microform: United States, 1948-72*—A cumulative listing of microforms of 34,289 entries held in 7,457 localities. Also available from same source: *Newspapers in Microform: Foreign: 1948-72*. (Washington, D.C., Library of Congress.)

*Dissertation Abstracts*—A listing of more than 300,000 abstracts of dissertations from major U.S. universities which are available on roll film. Over 30,000 new entries are added each year. (Ann Arbor, Mich., Xerox University Microfilms.)

*Microform Reference Volume 2*—A guide to more than 3500 selected microforms of about thirty-five micropublishers available through Udata Publications (a major jobber in the field of microforms). (Santa Monica, Calif., Udata Publications.)

### MICROFORM EQUIPMENT GUIDES

*Library Technology Reports*—Periodic evaluative reports on microform hardware including readers and reader/printers based on impartial testing. In its 1972 survey, they examined twenty-three models representing fourteen companies. Evaluations and specifications are very extensive and aid in making comparisons before purchase. (Chicago, Library Technology Program, ALA.)

*Guide to Micrographic Equipment*—Now in its sixth edition, this source, edited by Hubbard Ballou, has become a basic reference for information on specifications of all types of micrographic equipment including cameras, readers, reader/printers, and specialized retrieval systems. More descriptive than evaluative, it is still very useful for making comparisons of equipment capabilities. (Silver Springs, Md., National Micrographics Assoc.)

The reader is also referred to the *Buyer's Guide* and to *Library Literature* for many more specific sources on microform equipment and supplies.

## MICROPUBLISHERS: A SELECTED LIST

Catalogs and promotional brochures issued by micropublishers are a primary information source because "they are likely to contain titles not yet appearing in any of the combined lists and entries will often include a great deal of bibliographic detail not found elsewhere."<sup>22</sup> Rather than list the titles of actual catalogs here, the principal micropublishers with major microform programs or subject specialties are listed below. It is suggested that libraries get on the mailing lists of those meeting their particular needs.

*AMS Press, Inc.*, 56 East 13th Street, New York, N.Y. 10003. American periodicals; scholarly and learned journals; library reference books; multiple subject specialties.

*American Chemical Society*, 1155 16th St. N.W., Washington, D.C. 20036. Accounts of chemical research; all ACS primary publications; many journals and other information in the field of chemistry.

*American Institute of Physics*, 335 East 45th St., New York, N.Y. 10017. Current Physics Microform (Sections I and II); archival microfilm editions of forty-four physics journals; AIP conference proceedings and published journals.

*Bell & Howell Co., Micro Photo Division*, Old Mansfield Road, Wooster, Ohio 44691. Black culture collection; underground press collection; Herstory; newspapers; periodicals; and special educational collections.

*Center for Research Libraries*, 5721 S. Cottage Grove, Chicago, Ill. 60637. Africana; Asian studies; newspapers.

*Congressional Information Service*, 600 Montgomery Building, Washington, D.C. 20014. Government documents with a special emphasis on congressional working papers and legislation.

*ERIC Document Reproduction Service*, 2020 14th St. North, Arlington, Va. 22210. Microfiche reports from each of the clearinghouses; new publications are announced in *Resources in Education* (Government Printing Office).

*General Microfilm Company*, 100 Inman Street, Cambridge, Mass. 02139. Agents for Erasmus Press and Falls City Microform Programs; extensive bibliographic collection by subscription.

*Greenwood Press*, 51 Riverside Avenue, Westport, Conn. 06880. Large number of programs in government documents; manuscript and other original source documents; American history; British history; law.

*Information Handling Services*, Denver Technological Center, P.O.

### *Microform Publications*

Box 1154, Englewood, Colo., 80110. Indexes; business; engineering; library scientific publications.

*Lost Cause Press*, 750-56 Starks Building, Louisville, Ky. 40202. Afro-American studies; American fiction; slavery; American and British literature; American history.

*Microcard Editions* (a division of Information Handling Services), 5500 S. Valentia Way, Englewood, Colo. 80110. Books for College Libraries; U.S. Supreme Court records; National Union Catalog; American history; French history.

*Microfilming Corporation of America*, 21 Harristown Road, Glen Rock, N.J. 07452. Newspapers (including *The New York Times* and *The Times* (London)); periodicals; curriculum materials; research materials.

*Microforms International Marketing Corporation*, 380 Saw Mill River Road, Elmsford, N.Y. 10523. Pergamon Press journals; NTIS library files; rare collections; government publications.

*Microtext Library Services*, 1700 State Highway Three, Clifton, N.J. 07013. Scholarly research and reference materials in book/microfiche format; *National Cyclopedia of American Biography*.

*National Technical Information Services*, 5285 Port Royal Road, Springfield, Va. 22151. Scientific and technical reports based on U.S. government reports; abstracts; several programs involving government documents.

*Newsbank, Inc.*, P.O. Box 645, Greenwich, Conn. 06830. Condensed urban affairs topics from 130 cities in 50 states.

*Princeton Microfilm Corporation*, Alexander Road, Princeton, N.J. 08540. NTIS reference file; government documents; scholarly journals.

*Readex Microprint Corporation*, 101 Fifth Avenue, New York, N.Y. 10003. Early American works in literature, drama, newspapers; government documents (published on 6" x 9" micro-opaques).

*Redgrave Information Resources Corporation*, 53 Wilton Road, Westport, Conn. 06880. Research materials in collections; government documents; law.

*Research Publications, Inc.*, 12 Lunar Drive, New Haven, Conn. 06525. Scholarly collections; history; economics; political science; U.S. patents.

*Trans-Media Publishing Co., Inc.*, 75 Main Street, Dobbs Ferry, N.Y. 10522. Law; medicine; English and Irish history.

*Williams & Wilkins Co.*, 428 E. Preston Street, Baltimore, Md. 21202. Extensive journal publications in the field of medicine.

*World Microfilm Publications, Ltd.*, 62 Queen's Grove, London NW8 6ER, England. British government; politics; business; labor; economics.

*Xerox University Microfilms*, 300 N. Zeeb Road, Ann Arbor, Mich. 48106. Serials; dissertations; out-of-print books on many subjects.

## TRENDS AND DEVELOPMENTS

Throughout this article there have been allusions to the fact that the micrographics industry is changing rapidly and that we are at the threshold of heretofore unimagined library services. In a recent account of the state of the art of microforms, Frances Spigai identifies thirteen technological developments and responses from the library community which have a direct bearing on library service of the future.<sup>23</sup> A reaction to some of these developments and the citing of several others are highlighted below:

1. *Simultaneous or combination publishing*—A number of major publishers are now printing microform editions at the same time as the printed (paper) version and making these available at a slightly reduced cost if both are purchased. This offers many possibilities for the duplication of copies as well as for the establishment of satellite libraries. Another related development is the publishing of microform projects with printed aids, such as indexes and study guides.
2. *Computer Output Microfilm (COM)*—The implications are staggering as more and more publishers use the computer for their printing, changing from hot type to cold type. This is becoming common in the newspaper industry, where newspaper can be run directly from a paper or magnetic tape. The magnetic tape can be used to bypass the filming application and can print directly on film. Theoretically, it means that when publishers convert to computer printing, anything that is in print can be put on a microform almost instantaneously. Costs are still rather prohibitive for most libraries to consider COM micropublishing unless they have access to a computer for other services (acquisitions, circulation control, etc.). However, libraries of the future may well be banks of magnetic tape, and patrons may request information in any one of a variety of formats, even from remote stations.
3. *Ultrafiche*—Future development in the ultrafiche area (with a reduction ratio of 150:1 or greater) is perhaps directly related to developments in COM, which may well supersede its storage

### *Microform Publications*

advantages. However, the importance of ultrafiche, particularly for the storage of archival materials (rather than for the general library user), cannot be overlooked.

4. *Government publications*—The movement toward the publication of all U.S. Government Depository items (and other federal documents) is currently underway, evidenced by a test project with twenty-six institutions. Since current thinking indicates that the production will be contracted to commercial micropublishers, such business will give rise to many more micropublishers as well as to growth in existing ones. Very possibly, many libraries (even some relatively small ones) will function as depositories.
5. *Subscription to large microform projects*—This is generally not a future development, but a practice that is becoming rather common, and offers tremendous savings in money and space. Several examples include the ERIC services of the Congressional Information Service (which produces complete sets of congressional documents), and the production of such monumental works as the *National Union Catalog* and the *National Cyclopedia of American Biography*.
6. *Portable readers*—Several companies now market “cuddly” or “lap” fiche readers for under \$150, and even inexpensive roll film readers are now available. The exciting possibility of libraries loaning both microforms and the necessary hardware is not too remote—this would also eliminate the cost and extra procedural step of using reader/printers. The possibility of university or public libraries establishing satellites with entire collections of microforms (and with students carrying portable microform readers as commonly as they now carry hand calculators) is no longer remote and is an exciting prospect. A basic reference collection, a collection of 100,000 monographs, and hundreds of journals could easily be housed in an area as small as a typical dormitory room.

### RECOMMENDATIONS

In order for libraries of all types to take full advantage of the many possibilities of microforms for total library services—and not to be bypassed by rapid developments in the micropublishing industry and elsewhere in the realm of the commercial supplier—librarians must be committed and involved. Growing out of this premise are the following recommendations:

1. Library schools must recognize the importance of microforms and must demonstrate this recognition through the initiation of new courses, workshops or institutes involving microforms, which could be open to practicing librarians.
2. Libraries should institute training sessions for all staff members in order to create a greater understanding of the advantages (and problems) of microformats, leading to more effective use.
3. Libraries, particularly the very large ones, should consider the establishment of a position of microform librarian who would be responsible for many aspects of microform services, including selection, acquisition, and utilization.
4. Librarians should become actively involved in the National Micrographics Association (which is presently dominated by industry) so that their needs can be heard. There are many local chapters scattered throughout the country; the address of the national headquarters is: 8728 Colesville Rd., Suite 1101, Silver Springs, Md. 20910.

### References

1. Diaz, Albert J., ed. *Microforms in Libraries*. Weston, Conn., Microform Review, 1975, p. 4.
2. Rice, E. Stevens. "Fiche and Reel." In Diaz, *op. cit.*, p. 19.
3. Diaz, Albert J. "Microform Information Sources: Publications and Hardware," *Microform Review* 4:250-61, Oct. 1975.
4. Reichmann, Felix, and Tharpe, Josephine M. *Bibliographic Control of Microforms*. Westport, Conn., Greenwood Press, 1972, p. 3.
5. Gillespie, John T., and Spirt, Diana L. *Creating a School Media Program*. New York, R. R. Bowker, 1973, p. 207.
6. *Ibid.*
7. *Ibid.*
8. 1975-76 *High School Guide to Selecting Periodicals in Microform*. Ann Arbor, Mich., 1975, p. v.
9. *Microform Market Place, 1974/1975*. Weston, Conn., Microform Review, 1974.
10. Xerox University Microfilms, Ann Arbor, Michigan.
11. American Philosophical Society Library, Philadelphia, Pa.
12. Veenstra, John G. "Microimages and the Library," *Library Journal* 95:3443-47, Oct. 15, 1970.
13. Reichmann and Tharpe, *op. cit.*, p. 4.
14. Stevens, Rolland E. "The Microform Revolution," *Library Trends* 19:379-95, Jan. 1971.
15. Diaz, ed., *op. cit.*, pp. 5-6.
16. Reichmann and Tharpe, *op. cit.*, p. 4.

### *Microform Publications*

17. Veaner, Allen B. *The Evaluation of Micropublications; A Handbook for Librarians*. Chicago, ALA, 1971.
18. *Ibid.*, p. 6.
19. Bernhardt, Homer I. "Formats." In Diaz, ed., *op. cit.*, pp. 32-35.
20. Reichmann and Tharpe, *op. cit.*
21. Diaz, *op. cit.*, p. 250.
22. *Ibid.*, p. 258.
23. Spigai, Frances G. *The Invisible Medium: The State of the Art of Microform and a Guide to the Literature*. Washington, D.C., American Society for Information Science, 1973.

